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# Owner's Operating Service Instruction Manual

- **ASSEMBLY**
- **OPERATION**
- REPAIR PARTS

Model Nos. 246-670A 246-680A

# **POWER VACUUMS**

PRINTED IN U.S.A.

### IMPORTANT

It is suggested that this manual be read in its entirety before attempting to assemble or operate. Keep this manual in a safe place for future reference and for ordering replacement parts.

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see operating section of this manual for proper fuel and amount.

### SAFE OPERATION PRACTICES FOR POWER VACUUMS

- Read the operating and service instructing manual carefully. Be thoroughly familiar with the controls and proper use of the power vacuum.
- Never allow children to operate this power vacuum.
- Keep the area of operation clear ot all persons, particularly small children and pets.
- 4. Check fuel before starting engine. Do not fill fuel tank indoors, when engine is running, or while engine is hot. Wipe off any spilled fuel before starting engine.
- 5. Do not change engine governor settings.
- Do not put hands near rotating parts for any reason.
- If the power vacuum should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Before cleaning, repairing or inspecting make certain all moving parts have come to a complete stop. Disconnect spark plug wire and keep wire away from plug to prevent accidental starting. Also keep throttle control lever in the stop position.

- If the power vacuum should become blocked with debris at any point shut engine off and wait until the impeller comes to a complete stop before attempting to remove the obstruction. Disconnect spark plug wire to prevent accidental starting.
- 10. Check all bolts for tightness at frequent periods.
- Never store this power vacuum with fuel in the tank. Allow engine to cool before starting in any enclosure.
- Keep bag and equipment free of debris when not in use.
- 13. Never operate this power vacuum unless air duct and vacuum bag are properly affixed in their place. Large zippered end of bag must be closed when operating to prevent objects from being blown out.
- 14. Never empty vacuum bag when engine is running.
- Never change inlet nozzle or auxiliary hose attachment when engine is running.
- 16. The manufacturer recommends that the operator wear safety glasses or some other suitable eye protection when operating this machine.
- 17. Check the vacuum bag frequently for wear and replace when necessary.

#### **ASSEMBLY INSTRUCTIONS**

#### (Refer to figures 1, 2 and 3)

- Place the upper handle in position and fasten with four (4) hex screws and hex centerlock nuts provided.
- 2. Place the air duct liner in the elbow of the air duct and fasten in position as you assemble the air duct in step 3. (See figure 1.)
- 3. Place the air duct in position on the blower housing and fasten with four (4) flat washers and hex nuts provided.
- 4. Slide the vacuum bag over the back of the upper handle and snap the four flaps to hold the bag.
- Fasten the deflector on the top of the air duct with three hex screws, flat washers and hex nuts. (See figure 1.)
- 6. Slide the bag over the air duct.
- 7. Fasten the nozzle to the front of the vacuum with four flat washers and thumb nuts provided.
- 8. Use the following steps on the self propelled unit only.
- Fasten the throttle control to the right hand side of the upper handle with one hex screw and hex center locknut provided.
- Secure throttle control cable to the lower handle with the cable clip provided.



Cable clip must be assembled to lower handle with the open end towards the engine. This will prevent wear to the bag.

- 11. Place ferrule through control lever.
- 12. Place flat washer over ferrule and thread control rod into ferrule about eight or nine turns.
- Hook formed end of control rod in the shifting finger.
- Place curved face of spacer towards the outside of upper handle left hand side.
- Fasten control lever in position with hex screw and two hex nuts provided.

 Engage and disengage control lever, check for free pivoting action. It may be necessary to readjust the control rod.

#### **OPERATION**

 Service engine with gas and oil. See engine manual packed with lawn mower for complete instructions for care and maintenance of engine. READ DIRECTIONS CAREFULLY.

#### START ENGINE

After the engine has been properly fueled and oiled (refer to engine operating and maintenance instructions), start engine in the following manner.

#### **PUSH MODEL**

- Move throttle control lever on engine to START position.
- Crank engine. Pull recoil with a quick firm pull.
  Do not pull out so far that rope stops with a jerk as
  this will cause rope failure. Do not allow rope and
  handle to snap back into place.
- After two or three full firm pulls on recoil (or as soon as engine fires), move speed control to run position.
- Operate a new engine at intermediate speeds and light load for the first few hours as you would a new automotive engine.
- To stop engine, move speed control lever on engine to STOP position.
- 6. If carburetor needs adjustment to start or for operation, see "Carburetor Readjustment" section.

#### SELF PROPELLED MODEL

- Place drive engagement lever in the neutral position (towards the operator).
- 2. Move throttle control lever on handle to START position.
- Crank engine. Pull recoil with a quick firm pull. Do not pull out so far that rope stops with a jerk as this will cause rope failure. Do not allow rope and handle to snap back into place.

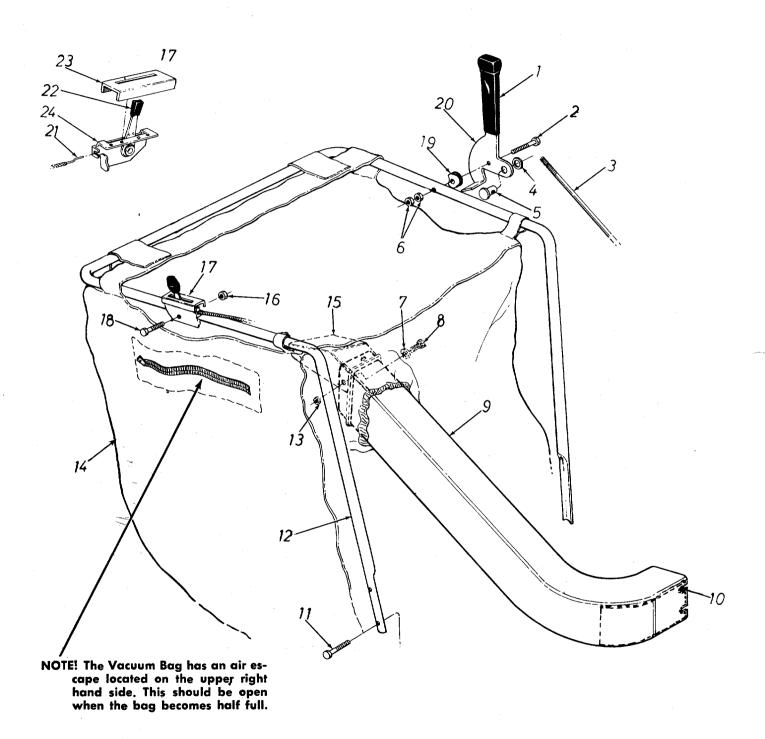


FIGURE 1. EXPLODED VIEW OF UPPER HANDLE

PARTS LIST FOR MODEL 246-670A AND 246-680A

REF. NO.		COLOR CODE	DESCRIPTION	NEW PART
1 2	720-0142 710-0606		Grip (246-680A) Hex Scr. ¼-20 x 1.50" Lg.*	
3	711-059	16	(246-680A) Control Rod (246-680A)	
4	736-010	-	Fl. Wash510" I.D. x .75"	
5	711-017	'O	O.D. (246-680A)	
6	712-017	·	Adj. Ferrule (246-680A) Hex Center L-Nut 1/4-20 Thd.	
			(246-680A)	
7	736-017	3	Flat Wash28" I.D. x .75" O.D. x .063	
8	710-028	9	Hex Scr. 1/4-20 x .50" Lg.*	
9	731-0212		Air Duct	
	12262		Air Duct Liner	
11	710-010	16	Hex Scr. ¼-20 x 1.25" Lg.*	
12	12234	_	Upper Handle	l
13	712-010 764-012	7	Hex Center L-Nut 1/4-20 Thd.	
		27	Vacuum Bag	
	12104		Deflector	
	712-010	17	Hex Center L-Nut 1/4-20 Thd.	
17	11609		Throttle Control Assy. —	
40	740 000	ne.	Comp. (246-680A)	
18 19	710-060 748-021	_	Hex Scr. 1/4-20 x 1.50" Lg.*	
20	12226	U	Spacer (246-680A)	
21	746-022	μα	Control Lever (246-680A)	
	140-022	. <del>.</del>	Conduit and Wire (246-680A Only)	
22	07470		Throttle Control—Knob (246-680A)	
23	731-034	.4	Plastic Label (246-680A)	N
24	11598		Throttle Control Ass'y. (246-680A)	

### (463—Top Flite Red)

When ordering parts, if color or finish is important use the appropriate color code shown above (e.g. Top Flite Red Finish—12236 (463).) NOTE: This instruction manual covers various models and all accessories shown do not necessarily apply to your model vacuum.

The engine is NOT under warranty by the vacuum manufacturer.

If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines —Gasoline."



<sup>\*</sup>For faster service obtain standard nuts, bolts, and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

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NOTE: Cable clip must be assembled to lower handle as shown, with open end towards the engine. This will prevent wear to the bag. 68 83 NOTE: See differential breakdown Page 10 60

FIGURE 2. EXPLODED VIEW OF FRAME

	PARTS LIST FOR FIGURE 2 MODEL 246-670A and 246-680A								
	REF. NO.	PART COLOR NO. CODE		NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
	1	710-0258	Hex Scr. 1/4-20 x .62" Lg.*		49	736-01	19	L-Wash. 5/16" Scr.*	
	2	736-0329	(246-680A) Spring L-Wash. 1/4" Scr.*		50	12211	<b>—463</b>	(246-680A) Gear Box Mtg. Brkt. Ass'y.	
i	3	712-0116	(246-680A) Hex Ins L-Nut 3/8-24 Thd.		51	736-01	119	(246-680A) L-Wash. 5/16" Scr.* (246-680A)	
	4	736-0117	(246-680A) FlWash. (246-680A)		52	710-01	118	Hex Scr. 5/16-18 x .75" Lg.*	
	5	714-0127	Cotter Pin 1/16" Dia. x .75"		50	706.00	200	(246-680A)	
	6	754-0176	(246-680A) "V"-Belt ¼" x 22.76" Lg. (246-680A)		53 54 55	736-03 12222 712-02	<b>—463</b>	L-Wash. 1/4" Scr.* (246-680A) Gear Box Brace (246-680A) Hex Nut 5/16-18 Thd.*	
	7	710-0938	Set Scr. 1/4-28 x .25" Lg.					(246-680A)	
	8	711-0614	(246-680A) P.T.O. Sheave (246-680A)		56 57	736-01 710-02		L-Wash. 5/16" Scr. (246-680A) Hex Scr. 1/4-20 x .62" Lg.*	
	9	756-0194	Idler Pulley (246-680A)					(246-680A)	
	10	12206	Idler Brkt. Ass'y. (246-680A)		58	710-0	148	Hex Wash. Hd. F-Tapp Scr. #8 -32 x .38" Lg. (246-680A)	
	11 12	732-0157 712-0429	Spring .38" O.D. (246-680A) Hex Ins. L-Nut 5/16-18 Thd.		59			Gear Box Breakdown See Ref.	
	13	738-0140	(246-680A) Shoulder Bolt .437" Dia. x					No's. 86 through 94 (246-680A)	
	4.4	744 0506	.180 (246-680A)		60	714-0 <sup>-</sup>	126	#9 Hi-Pro-Key 3/16" x 3/4" Dia. (246-680A)	
	14 15	711-0596 12231	Control Rod (246-680A) Shifting Finger (246-680A)		61	713-0	118	Chain #41 x 61 Links	
	16	712-0429	Hex Ins. L-Nut 5/16-18 Thd.			7400	700	(246-680A)	
	17	12213 —463	(246-680A)   Pivot Brkt. Ass'y. (246-680A)		62	713-0	/23	#41 Master Link ½" Pitch Type II (246-680A)	
	18	732-0237	Compression Spring	:	63	710-0		Hex Scr. 5/16-18 x .75" Lg.*	
	19	714-0474	(246-680A)   Cotter Pin 1/8" Dia. x .75"		64 65	736-0 712-0		L-Wash. 5/16" Scr.* Hex Nut 5/16-18 Thd.*	
	'	•	Lg.* (246-680A)		66	736-0		L-Wash. 5/16" Scr.*	
	20	736-0300	FlWash. (246-680A)		67	12224		Index Plate Ass'y.	
- Carrier	21	714-0137	Hi-Pro-Key 3/16" x 3/4" Dia. x 1.062" Lg. (246-680A)		68 69	748-0	—463 227	Engine Mtg. Frame Ass'y. Hex Flange Bearing .630" I.D.	
	22	12216	Shifting Yoke Ass'y.		70	736-0	116	FlWash.	
		774 0504	(246-680A)		71 72	710-0 736-0		Hex Scr. 1/4-20 x .62" Lg.*	
	23 24	711-0594 720-0132	Shifting Fork Rod (246-680A)   Grip		73	734-0		Rear Wheel Ass'y. Comp.	
	25	12208	Index Handle Ass'y.		75	710-0	118	Hex Scr. 5/16-18 x .75" Lg.*	
	26	732-0231	Torsion Spring		76	736-0		L-Wash. 5/16" Scr.*	
	27 28	712-0107 12240 —463	Hex Center L-Nut ¼-20 Thd. Pivot Brkt. Ass'y.—R.H.		77	712-0	201	Hex Nut 1/4-20 Thd.* (246-680A)	
	29	748-0161	Clutch Collar (246-680A)		78	736-0	329	L-Wash. 1/4" Scr. * (246-680A)	
	30	748-0164	Sprocket 10 Teeth (246-680A)		79	710-0		Hex Scr. 1/4-20 x .62" Lg.*	
	31	736-0116	FIWash. (246-680A)		80	12232	)	(246-680A) Chain Guard (246-680A)	
	32	716-0115	Snap Ring for .625" Dia. (246-680A)		81	712-0		Hex Center L-Nut 1/4-20 Thd.	
	33	756-0195	Drive Pulley (246-680A)		82	746-0	128	Cable Clip	
	34	736-0160	FIWash. (246-680A)		83	738-0		Rear Axle (246-680A)	
	35	748-0742	Flange Bearing (246-680A) Hex Scr. 1/4-20 x 1.75" Lg.*	ļ		717-0	284	Differential Ass'y. Comp. (246-680A)	
	36	710-0136 12241 —463	Pivot Brkt. Ass'y.—L. H.		84	12233	3	Lower Handle	
	38	714-0115	Cotter Pin 1/8" Dia. x 1.00"		85	712-0	107	Hex Center L-Nut 1/4-20 Thd.	
	00	700 0440	Lg.*		86	714-0	229	#2 Woodruff Key 3/32 x ½" Dia. Hdn. (246-680A)	
	39 40	736-0116 12217 —463	FIWash. Front Axle Ass'y.		87	748-0	136	Pinion Gear .50" I.D. x 14	
	41	734-0225	Front Wheel Ass'y.—Comp.					Teeth (246-680A)	
	42	748-0176	Flange Bearing .630" I.D.		88	711-0		Drive Shaft (246-680A) Spring Pin Spirol 3/16" Dia. x	
	43	736-0116 714-0115	FIWash. Cotter Pin 1/8" Dia. x 1.00"		09	/ 13-0	7240	1.25 (246-680A) Bevel Gear .62" I.D. 28 Teeth	
		712-0107	Lg.* Hex Center L-Nut 1/4-20 Thd.		90	748-0	135	Bevel Gear .62" I.D. 28 Teeth (246-680A)	
,	45	112-0101	(246-680A)		91	08187		Gear Box Cover (246-680A)	
	46	736-0329	L-Wash. 1/4" Scr. * (246-680A		92	748-0	110	Flange Bearing .630" I.D. (246-680A)	
	47	12227 —463	Bearing Support Brkt. (246-680A)		93	08189	a a	Gear Box (246-680A)	
	40	710 0110	1		94	748-0		Flange Bearing .503" I.D.	
	48	710-0118	Hex Scr. 5/16-18 x .75" Lg. (246-680A)		95	710-0		(246-680A)   Hex Scr. 5/16-18 x 1.50 Lg.*	
	<u></u>	1	,	<u> </u>	1	1		1	

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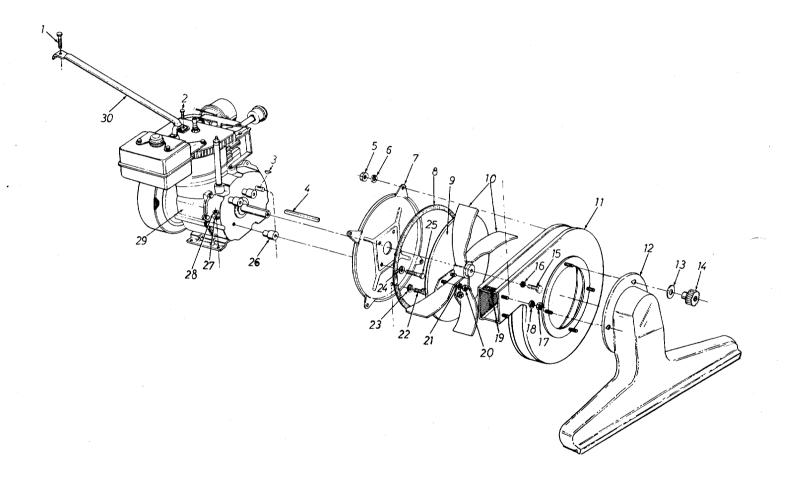


FIGURE 3. EXPLODED VIEW OF DRIVE ASSEMBLY

### PARTS LIST FOR MODEL 246-670A AND 246-680A

REF. NO.		COLOR CODE	DESCRIPTION	NEW PART	
1	710-0106 —		Hex Scr. 1/4-20 x 1.25" Lg.*		
2			Part of Engine		
3	714-010	_	Woodruff Key (246-680A)		
4	714-011		Sq. Key 1/4" x 2.00" Lg.		
5	712-026		Hex Nut 5/16-18" Thd.*		
6	736-011		L-Wash. 5/16" Scr.*		
7	11452		Hopper to Engine Mtg. Plate		
8	721-012		Gasket Strip—Pressure Sen.		
9	12203		Vane Plate Ass'y.		
10	12230 · 12236 ·		Air Vane		
12			Blower Housing Ass'y. Nozzle	ŀ	
13	736-021		FIWash344" I.D. x .88"	l	
'	750-015	9	O.D. x .063		
14	712-0254 710-0239		Thumb Nut 5/16-18 Thd.		
15			Hex Scr. 3/8-24 x 1.75" Lg.		
	710 0200		H.T.		
16	736-021	7	L-Wash, 3/8" Scr. Heavy Duty		
17			Hex Center L-Nut 1/4-20 Thd.		
18	736-0211		FlWash285" I.D. x 1.25"		
		_	O.D. x .060		
19		-	Dust Pad—Pressure Sensitive		
20		-	Hex Nut 3/8-24" Thd.*		
21		•	L-Wash. 3/8" Scr. Heavy Duty		
22		_	Hex Scr. 5/16-18 x .75" Lg.*		
23			L-Wash. 5/16" Scr.*		
25	736-0119		L-Wash. 5/16" Scr.*		
	710-0409 711-0591		Hex Scr. 5/16-24 x 1.75" Lg.* Engine Spacer		
	736-0119		L-Wash. 5/16" Scr.*		
28			Hex Nut 5/16-18 Thd.*		
29	112-0201		Engine		
30	12228		Handle Brace		
			11411415 51400		

### (463-Top Flite Red)

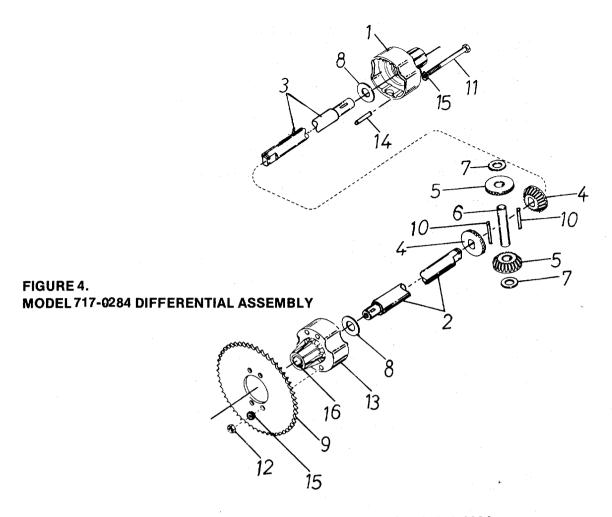
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The engine is NOT under warranty by the vacuum manufacturer.

If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines —Gasoline."



<sup>\*</sup>For faster service obtain standard nuts, bolts, and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.



### PARTS LIST FOR FIGURE 4 MODEL 246-680A

REF. NO.	PART NQ.	COLOR CODE	DESCRIPTION	NEW PART
1	719-0159		Housing Half (1)	
2 3 4 5	738-0217		Shaft—Short (1) 8.31" Lg. (1)	
3	738-0218		Shaft—Long (1) 15.38" Lg. (1)	
4	748-0185		Gear—Double "D" Hole (2)	
5	748-0158		Gear—Round Hole (2)	
6 7	711-0261		Drive Pin (1)	
7	736-0187		Flat Washer (2)	1
	736-0188		Washer (2)	
	09054		Sprocket 40 Tooth (1)	
	715-0247		Spirol Pin 3/16" Dia. x 1.00" Lg. * (2)	
11	710-0526		Hex Hd. Cap Scr. 5/16-24 x 4.00" Lg.* (4)	
12	712-0237		Hex Locknut 5/16-24 Thd. (4)	
13	719-0150		Housing Half (1)	
14	715-0123		Dowel Pin 3/16" Dia. x .62" Lg. (2)	
15	736-0119		Spring Lockwasher 5/16" Scr. * (8)	
16	748-0169		Flange Bearing (2)	
17	737-0120		Grease—High Temp. 450 F. (2 oz.)	

<sup>\*</sup>For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

### PARTS INFORMATION

### POWER EQUIPMENT PARTS AND SERVICE

Parts and service for all MTD manufactured power equipment are available through the authorized service firms listed below. All orders should specify the model number of your unit, parts numbers, description of parts and the quantity of each part required.

ALABAMA	BIRMINGHA	M
Auto Electric & Car	buretor Co	.2625 4th Ave. S 35233
ARKANSAS	NORTH LIT	TLE ROCK
Sutton's Lawn Mow	er Shop	Rt. 4, Box 368 72117
	FORT SMIT	H 70001
Mity Mite Motors, I	nc:	2515 Towson Ave 72901
CALIFORNIA	SAN BERNA	25608 E. Baseline 92410
	SAN FRANC	CISCO
I.W. Jewett Co		981 Folsom St 94107
	SACRAMEN	TO .
Luttig & Severson		2030 28th St 95818
COLORADO	DENVER	B00000
South Denver Lawn	Equip	527 West Evans 80223
CONNECTICUT	SUFFIELD	850 Thompsonville Rd. 06078
FLORIDA	JACK SONV	III F
Radco Distributors	3.401.301.1	. 2403 Market St 32206
	CORAL GA	BLES
Moz-All of Florida	, Inc	365 Greco Ave 33146
GEORGIA	EAST POIN	IT 20244
East Point Cycle &	k Key	2834 Church St 30344
ILLINOIS	LYONS	8615 Ogden Ave60534
INDIANA	ELKHART	00 15 Ogach Aver IIIII
Parts & Sales Inc.		2101 Industrial Pkwy46514
	CORYDON	
Brown Equip. Dist	., Inc	. 110 Beech St47112
IOWA	DUBUQUE	. 2551 J.F. Kennedy 52001
KANSAS	WICHITA	. 2551 J.1 . Reilitedy 52007
Hixon, Inc.		. 3030 Mascot 67204
LOUISLANA	NEW ORLE	ANS
Suhren Engine Co.	• • • • • • • • • • • • • • • • • • • •	8330 Earhart Blvd 70118
MARYLAND	TAKOMA P	ARK
Center Supply Co.	CDDINCE!	867 New Hampshire Ave. 20012
MASSACHUSETTS	ŞEKINGELI Co	300 Birnie Ave 01107
MICHIGAN	MOUNT CL	.EMENS
Power Equipment	Dist	. 36463 South Gratiot 48043
	LANSING	
		. 2500 S. Pennsylvania 48900
MINNESOTA	MINNETON	IKA 11212 Wayzata Blvd55343
	BILOXI	. 11212 Wdy 2414 Biva55545
MISSISSIPPI Bilari Sales & Ser	vice Inc	506 Caillavet St 39533
MICCUIDI	KANSAS C	ITY
Automotive Equip	Service	3117 Holmes St 64109
	ST. LOUIS	. 2015 Lemay Ferry Rd. 63125
	OMAHA	. 2015 Lemdy Felly No. 03125
NEBRASKA RPW inc	VMAIIA	. 7402 "L" St 68127
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### BRIGGS & STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts an service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing Engines —— Gasoline, Briggs & Stratton or Tecumseh Lauson ——

NEW YORK CARTHAGE
Gamble Dist., Inc
Kimber's, Inc 115 N. Geddes St 13204
ROCHESTER
Henry W. O'Neil & Associates410 N. Goodman St 14609 NORTH CAROLINA GREENSBORO
Dixie Sales Company 327 Battleground Ave 27402
GOLDSBORO
Smith Hardware Co
National Central
CLEVELAND Bleckrie, Inc44102
CARROL
Stebe's Mid-State Mower Supply Box 366
WILLARD Sunshine Wholesale Tire Outlet_Route 224 44890
MANSFIELD
McClure Lawn & Garden Supply1114 Lexington Ave 44903
OKLAHOMA MUSKOGEE Victory Motors, Inc605 S. Cherokee 74401
!
Ada Auto Supply
Kenton Supply Co8216 N. Denver Ave 97217
PENNSYLVANIA LANCASTER Raub Supply Co James & Mulberry Sts 17604
PITTSRIIRGH
Bluemont Co
TENNESSEE KNOXVILLE Master Repair Service 2423 Broadway, N.E37917
1 MEMPHIS
Memphis Cycle & Supply Co 421 Monroe Ave38103 American Sales & Service, Inc 1922 Lynnbrook38117
! TEYAS DALLAS
Marr Brothers, Inc 423 E. Jefferson 75203
HOUSTON Bullard Supply Co 2409 Commerce St 77003
SAN ANTONIO
Catto & Putty, Inc P.O. Box 240878206
FORT WORTH Woodson Sales Corp
I IITAH SALT LAKE CITY
A-1 Engine & Mower Co 437 E. 9th St84111 VERMONT BURLINGTON
Vermont Appliance Co 44 Lakeside Ave05401
VIRGINIA RICHMOND RBI Corp
I WASHINGTON SEATTLE
Bailey's Rebuild, Inc 1325 E. Madison St98102
WEST VIRGINIA CHARLESTON Young's, Inc
WISCONSIN APPLETON
Automotive Supply Co 123 S. Linwood Ave54911

### WARRANTY PARTS AND SERVICE POLICY

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture, it does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions over which it has no control. Simply put, if it's the manufacturer's fault, it's the manufacturer's responsibility; if it's the customer's fault, it's the customer's responsibility.

## CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES

- 1. Replacement of Missing Parts on new equipment.
- 2. Replacement of Defective Parts within the warranty period.
- 3. Repair of Defects within the warranty period.

All claims MUST be substantiated with the following information:

- 1. Model Number of unit involved.
- 2. Date unit was purchased or first put into service.
- 3. Date of failure.
- 4. Nature of failure.